



# OPTimum Drawer for France



## Component Technical Manual



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## **1 INTRODUCTION**

### **1.1 How to Use this Manual**

It is recommended that all relevant persons familiarise themselves with the contents of this manual prior to carrying out any operations or procedures.

This manual is divided into sections which are described as follows: -

#### **Section 1 - Introduction**

This section contains information on how to use the manual, the scope of equipment covered, recommendations on qualified technicians and contact information. It also includes relevant health and safety information required for the safe practice of common maintenance procedures.

#### **Section 2 - Product Information**

This section contains the system descriptions and operating principles of the various Outdoor Payment Terminals including Dispenser Integrated Terminals (DITs), Credit Card Terminals (CCTs) and Bank Note & Credit Card Terminals (BCTs). It also includes the wiring diagrams for the VGA and LCD displays.

#### **Section 3 - OPTimum Drawer - France**

This section contains the assembly drawings and part identification lists for the various Outdoor Payment Terminal options relating to the country-specific requirements for France.

### **1.2 Product Scope**

This manual is designed to cover the OPTimum option in Quantum and Quantum T range dispensers for France only.

### **1.3 Authorised Technicians**

Only qualified technicians familiar with the contents of this manual should carry out the procedures contained herein.



**WARNING : ANY ATTEMPTS TO CARRY OUT THE PROCEDURES OF THIS MANUAL, BY UNQUALIFIED OR UNAUTHORISED PERSONS, MAY RESULT IN SERIOUS INJURY OR LOSS OF LIFE.**

**NOTE : THIS MANUAL IS NOT INTENDED TO REPLACE THE SERVICES OF A FULLY QUALIFIED TECHNICIAN.**

### **1.4 Contact Information**

For information relating to the contents of this manual please contact: -

Technical Author  
Tokheim UK Ltd.  
Dundee, Scotland

For technical assistance please contact the appropriate service division listed on the back cover of this manual.

## 1.5 Health & Safety

### 1.5.1 SAFETY CHECKLIST

- It is obligatory that this checklist be fully complied with during all work at the petrol station, particularly construction or repair work.
- It is the duty of the contractor to ensure that all workers employed by him obey each and all of the relevant laws, directives and other regulations.

#### Areas where special caution is required

- The insides of tanks, tubes, dome shafts, filling shafts, change over shafts, vessels and dispensers.
- All areas in which fuel vapour that is heavier than air can accumulate, e.g. fuel separator, draining shafts, low located rooms, cellars, excavations, pipe trenches etc.
- The areas around the outlets of tank ventilation pipes, especially during the filling phase.
- All areas near dispensers, tanker lorries and other vehicles while they are being tanked up, and particularly when there is a lack of wind.
- A radius of 1.0 metres around petrol carrying pipes, as well as pipes that are not vapour free.
- Silt traps.

### 1.5.2 DUTIES OF THE EMPLOYEES

- To ensure optimal accident prevention in our company, in addition to general rules applying to worker's protection, it is necessary to take into account all the national protection of workers legislation and to actively support all measures which enhance safety standards.
- It is an employee's duty to follow all company directives regarding the prevention of accidents, unless such directives can be proved to be unfounded.
- Employees should not follow any instructions that go against safety standards.
- Employees are only permitted to use equipment for its original purpose, and this is defined by the company alone.
- If an employee detects equipment that is deficient in terms of safety, he shall eliminate this deficiency immediately. If such safety rectification is not part of his defined area of activities, or if his knowledge is insufficient to carry out such work he must immediately inform his superior about the detected safety deficiency.

This equally applies to:

- 1) **Work Materials** which have not been correctly packed or correctly marked in order to meet safety requirements.
- 2) **Work Methods** or work processes which have not been correctly coordinated or controlled in order to meet safety requirements.

- 3) **Where dangerous activities are carried out by several persons**, the need for a permanent faultless communication between them in order to avoid dangerous events shall require the appointing of one person in order to carry out overall supervision.

#### 1.5.3 HAZARDS

Prior to starting work, the dispenser must be isolated (i.e. entirely disconnected from the mains supply) and the mains supply switch locked in the OFF position. The submerged pump (if applicable) and control signals from the dispenser must also be isolated. This is done to provide safety for the technician. As a further precaution, switch off the mains supply in the service station shop and place a clear notice on the switch to avoid it being turned on again inadvertently.



**WARNING : THE CONNECTION AND DISCONNECTION OF ELECTRICAL CONNECTIONS MAY ONLY BE CARRIED OUT BY QUALIFIED PERSONNEL AUTHORISED FOR SUCH ACTIVITIES. WORK IN DANGEROUS AREAS MUST BE MADE SAFE BY OBSERVING ALL THE NATIONAL SAFETY REQUIREMENTS IN FORCE.**

It is not permitted to put a fuel dispenser into operation before an authorised official has inspected it and released it. This depends upon the national regulations in force.

Dismantled packaging and cladding must be stored in such a way as to avoid damage to components or injuries to persons. Covers that can be opened, such as the calculator housing, should be handled with care. Ensure that the retaining catch is placed in the correct position to prevent the cover falling onto the head of the service engineer or other persons in the area.

At unattended service stations, every end-user should be able to read the User Instructions. They should be visible on a notice board or integrated into the DIT and should be sufficiently well lit so that they can be read at night.

At unattended service stations break away couplings must always be used to reduce the danger caused by a motorist driving off with the nozzle still in the tank.

#### 1.5.4 WARNING SIGNS

The following warning signs are fitted as standard, on the dispenser, however they may vary according to individual country requirements or customer specifications.

SIGN	MEANING	POSITION
	Do not use mobile phones	Visible from both sides of dispenser
	Naked flames and smoking forbidden	Visible from both sides of dispenser
	Do not spill fuel on the ground	Visible from both sides of dispenser
	Stop vehicle engine	Visible from both sides of dispenser
	Trucks only	At Diesel high speed dispensers near the nozzle boots
	Do not drive away with nozzle in tank	Visible from both sides of dispenser
<b><i>For more information see User Manual available at this station</i></b>		Next to User Instructions near the nozzle boot

### **1.5.5 PERSONAL PROTECTIVE EQUIPMENT (PPE)**

#### **PROTECTIVE CLOTHING**

The following clothing should be worn **at all times** during installation and maintenance procedures:-

- Protective helmet.
- Protective shoes (conductive).
- Protective gloves and/or protective hand cream.
- Anti static clothing.
- Eye protection.

#### **SAFETY EQUIPMENT FOR WORKING IN HAZARDOUS AREAS**

The following safety equipment is required for working in hazardous areas:-

- Only spark free tools are permitted for work on dispensers.
- Work on bearings is only permitted using the standard workshop tools authorised for this kind of work.
- The use of all electrical tools is strictly prohibited.
- Only the use of explosion protected work lights is permitted.
- The use of telecommunications equipment in hazardous areas is strictly prohibited.

#### **SAFETY INSTRUCTIONS**

The following safety instructions must be adhered to during installation and maintenance procedures:-

- Inhalation of petrol vapour must be avoided. Suitable precautions must be taken and where necessary respirators used.
- Avoid direct contact of fuel with the skin.
- Use suitable protective clothing, protective gloves and/or protective hand cream.
- Avoid fuel spills.
- No smoking, no naked flames are permitted.
- Long hair and ties can get caught in moving parts. Hair must be suitably covered.

### **1.6 Standards & Certificates**

This dispenser is constructed in conformity with the requirements of all the applicable European Directives (Machinery 98/98/37/EC; EMC 89/336/EEC; ATEX 94/9/EC).

The components used within the dispenser, including connection facilities, are selected in accordance with the European Standard EN 50014 (Electrical apparatus for potentially explosive atmospheres), and the supplementary Standards listed therein.

Diesel dispensers do not create an explosive hazard, but due to the probability of these being in close proximity to gasoline dispensers, the same construction rules are applicable.

The dispenser is certified by SIRA as suitable for use in Potentially Explosive Atmospheres Directive 94/9/EC, and marked to be in accordance with the European Dispenser Construction Standard EN 13617-1.

This dispenser is also certified to OIML International Recommendations R117 and R118. Certificate Numbers R117/1995-NL-01.04 & 08.

The production and end test is controlled through the Quality Assurance systems within the Tokheim Manufacturing Centres.

### **1.7 Nomenclature**

The various abbreviations used in this manual are described as follows:-

DIT	Dispenser Integrated Terminal
OPT	Outdoor Payment Terminal
CCT	Credit Card Terminal
BCT	Bank Note & Credit Card Terminal
BNA	Bank Note Acceptor

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## 2 PRODUCT INFORMATION

### 2.1 System Description

The OPTimum product range is designed to provide pay-at-the-pump facilities with a country-specific user interface. The OPTimum range includes dispenser-integrated payment terminals and stand-alone island payment terminals for banknote and/or credit card payment.

The range consists of the following:-



#### •OPTimum Integrated

The OPTimum Integrated is a payment terminal that is completely integrated in the Tokheim dispensers in the factory or in the field as a retrofit option for Q500/Q500T Dispensers. It is also available as option in the Euro-Premier Dispenser.



#### •OPTimum Retrofit

The OPTimum Retrofit is specially designed for field retrofit as an 'add-on' unit to upgrade installed dispensers such as the Tokheim dispensers HDM-III and Spectra. Because of its compact design, it can also be used as upgrade for third-party dispensers.



#### •OPTimum Card Terminal

The OPTimum Card terminal is an island terminal for cards only. Depending on the configuration, it will be able to accept magnetic-stripe-cards and/or chipcards. The design combines an excellent presence without obstructing a good view on the forecourt for operators that work in the kiosk.

stand-alone island terminal for credit cards only



#### •OPTimum BNA Terminal

The OPTimum BNA terminal is a stand-alone island terminal for banknotes (and optional credit cards). Depending on the type of configuration, it can accept up to 20 different banknotes in four different ways of introduction. The outside dimensions are equal to the OPTimum-Card terminal.

## 2.2 Key Characteristics

All Outdoor Payment Terminals have the following key characteristics:-

- Modular micro-processor hardware
- Off-the-shelf real-time operating system
- High speed thermal ticket printer with automatic cutter and “drop down” ticket bin
- Manual or motorised readers for magnetic stripe cards and/or chip cards
- Country specific security PIN keypads (to meet individual country legal requirements)
- Line character LCD display or VGA colour LCD screen
- Tokheim proprietary interface to Tokheim site controller
- Modular design harmonised with dispenser design
- Separate mains supply for lighting and/or heating
- Audio-signal/feedback
- Optional Battery Back-up
- Alarm Contacts

## 2.3 Main Components of the OPT

The OPT consists of a number of modules which can be combined depending on the type of the calculator and the number of products and options used. The OPT is supplied with standard parts (printer and temperature control unit), optional pre-defined parts (card reader and power supply) and country-specific or customer-specific parts (pinpads etc.).

The main components of the OPT are:-

- Receipt Printer (refer to section 2.3.1)
- Display & Keyboard (refer to section 2.3.2)
- Card Readers (refer to section 2.3.3)
- Banknote Acceptor (refer to section 2.3.4)
- Country-specific configurations (refer to section 2.3.5)

### 2.3.1 RECEIPT PRINTER

All OPTimim units are fitted with the standard receipt printer, automatic cutter and printer controller board. A drop-down ticket bin is also supplied to avoid the possibility of a paper jam caused by customers removing the ticket prior to completion of cutting.

The basic characteristics of the receipt printer are as follows:-

- Printing Method : Thermal dot line printing (448 dots per line)
- Effective Printing Width : 56mm
- Printing Speed : 400 dot lines per second
- Paper Feed Method : Friction - Pitch 0.125mm per minute force 100g

- Motor : 4 phase step motor 24V DC (+/- 5%)
- Printing Head Circuit : 5V DC (+/- 5% 100mA)
- Printing Head Driving : 5V DC (+/- 5% 1.7A at 25% duty)
- Paper Width : 59.5mm (+/- 5mm)
- Paper Roll Diameter : < 60mm
- Temperature Detector : By thermistor
- Head Open Detection : By Mechanical Switches
- Paper End Detection : By Photo Interruptor
- Paper Replacement : Auto Feed (once new roll in position)

### 2.3.2 DISPLAY & KEYBOARD

The displays and keyboards are required to be country-specific and the OPTimum has been designed accordingly to allow a selection of keypads and displays to be fitted.

In addition to country specific security requirements, the keyboards and displays have the following options:-

- 2 line character display (16 or 18 characters per line)
- 6.4"  $\frac{1}{4}$  VGA colour screen (with optional side keys)
- 4x4 or 4x5 metal top keyboard

### 2.3.3 CARD READERS

#### **Omron Motorised Card Reader**

The Omron Card Reader is available in two configurations:-

- For magnetic stripe cards and chipcards; pre-head detection on track 2 (France)
- For magnetic stripe cards only; pre-head detection on tracks 2 & 3 (Spain, Switzerland)

Characteristics of the Omron Card Reader:-

- Magnetic Cards : R/W track 1,2,3 with ISO conformity
- IC Cards : R/W with ISO conformity
- Recording Method : FM decoding (F2F)
- Card Feeding Method : Motor driven
- Card Feeding Speed : 20cm per second (+/- 10%)
- Motor Type : DC Motor
- Service Life : > 1,200,000 passes
- Magnetic Pre-head Detection : Tracks 2 & 3

**Magtek/DDM Card Reader**

The Magtek/DDM Card Reader is available for magnetic stripe cards and/or chip cards.

Characteristics:-

- Magnetic Cards : Read track 1,2,3 with ISO conformity
- Recording Method : FM decoding (F2F)
- Card Feeding Method : Manual (push/pull)
- Card Feeding Speed : 8-127cm per second
- Service Life : > 500,000 passes

**2.3.4 BANKNOTE ACCEPTOR (BNA)**

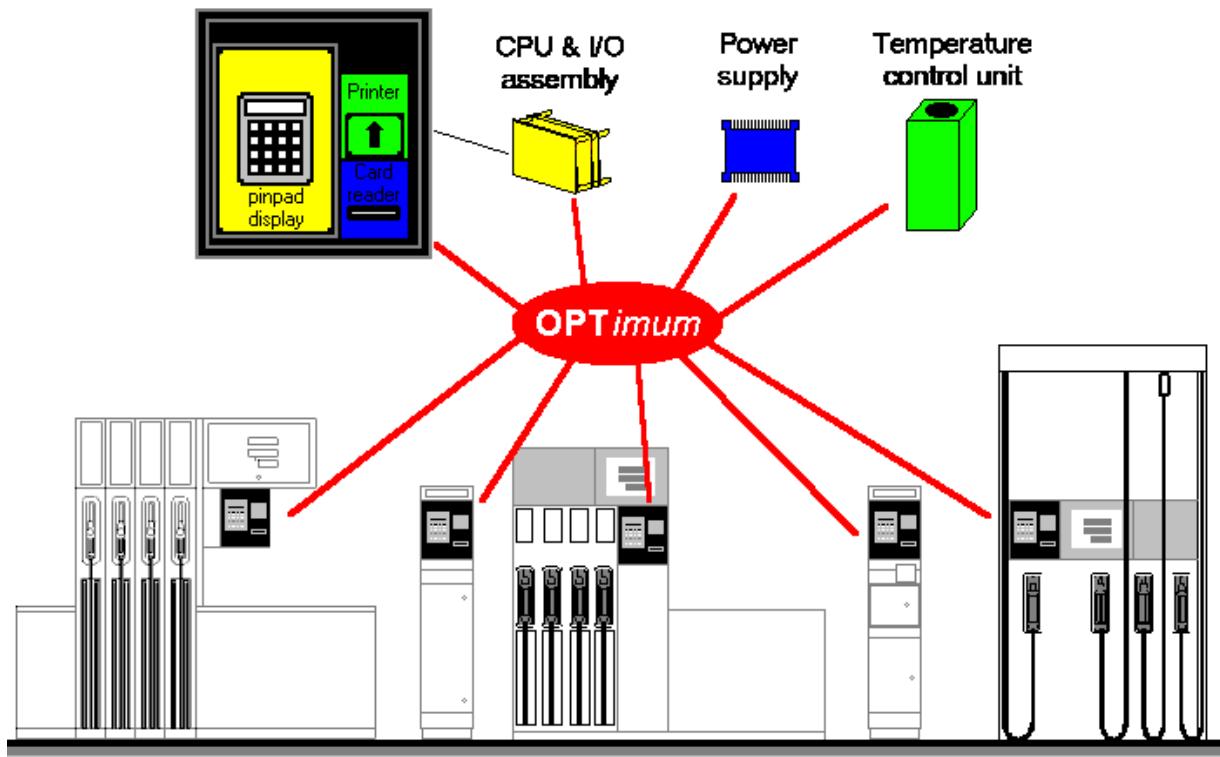
For security reasons, Tokheim does not manufacture a dispenser-integrated Bank Note Acceptor. The Bank Note Acceptor is manufactured as a stand-alone island terminal with the cash unit located in a specially reinforced compartment which is not accessible from the installation/service area.

The BNA has the following characteristics:-

- Outer dimensions as for the Tokheim OPTimum Card Terminal
- Reinforced money compartment with separate door and safe lock
- Standard removable Tokheim cash-drop box (approx. 400 notes capacity); or the upgraded cash box which supports stacker function including down stacker
- Standard reader for up to four different notes (note images are stored in Eeprom); or the upgraded reader which handles up to 13 different banknotes
- Multi-note inlet
- Anti-magnetic or IC card inlet
- Average acceptance rate of 98%
- Service life approx. 1 million notes

### 2.3.5 COUNTRY-SPECIFIC REQUIREMENTS

The OPTimum range components as shown in the following schematic diagram vary by country and in accordance with local and/or national requirements.



#### KEYPAD & CARD READER OPTIONS

##### Benelux, UK, Norway & Denmark



Security PIN-pad with integrated display, alphanumerical keypad and manual or motorised card reader for magnetic stripe cards only. Dutch version has numerical keypad and RFID chip reader.

##### France



6.4" 1/4 VGA colour display with side keys, 4x4 keypad and motorised or manual card reader for magnetic stripe and chipcards. Alternative 2x20 LCD display, 4x5 keypad and motorised or manual card reader. Optional central security module (via Site Controller).



##### Spain & Portugal

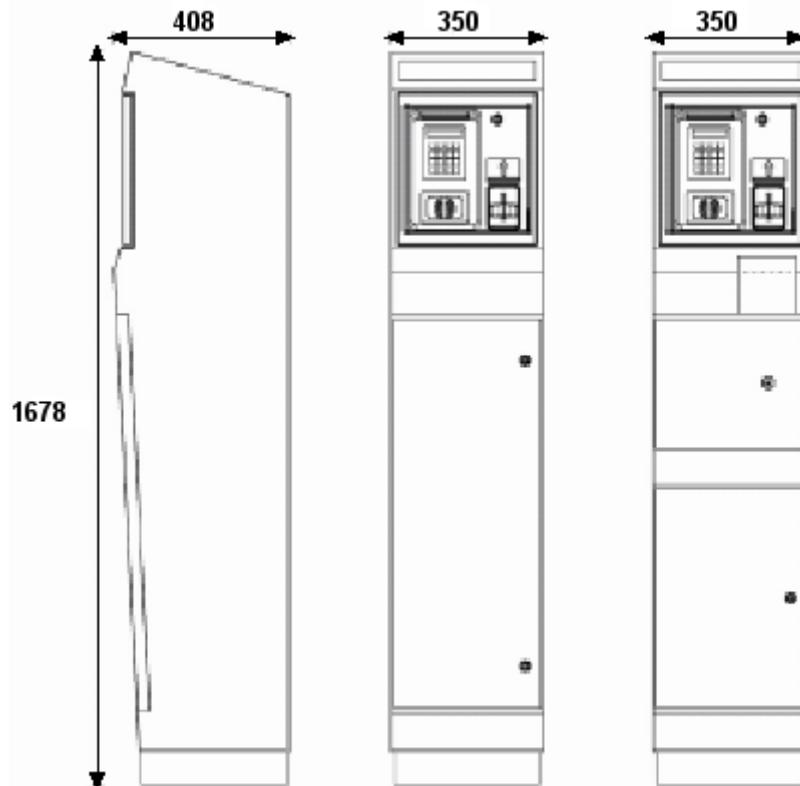
Two line x 16 character display, security PIN-pad and manual card reader for magnetic stripe and chipcards. Optional PIN-pad and additional numerical keypad.



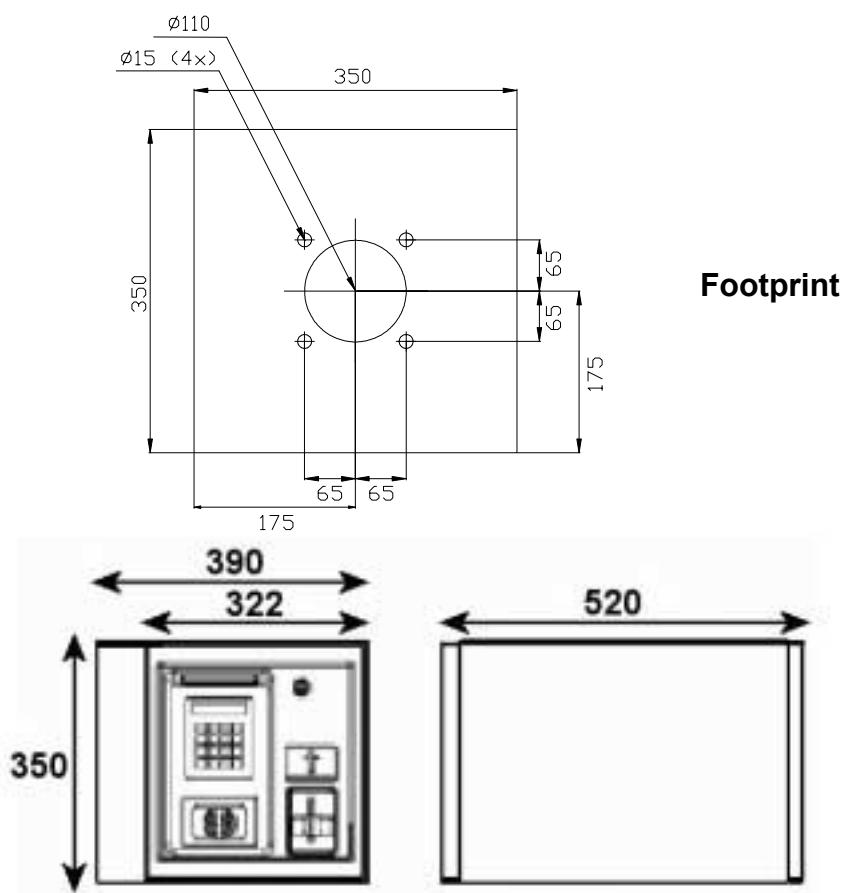
##### Switzerland

Security PIN-pad with integrated display and motorised card reader for magnetic stripe cards only.

## 2.4 OPTimum Dimensions



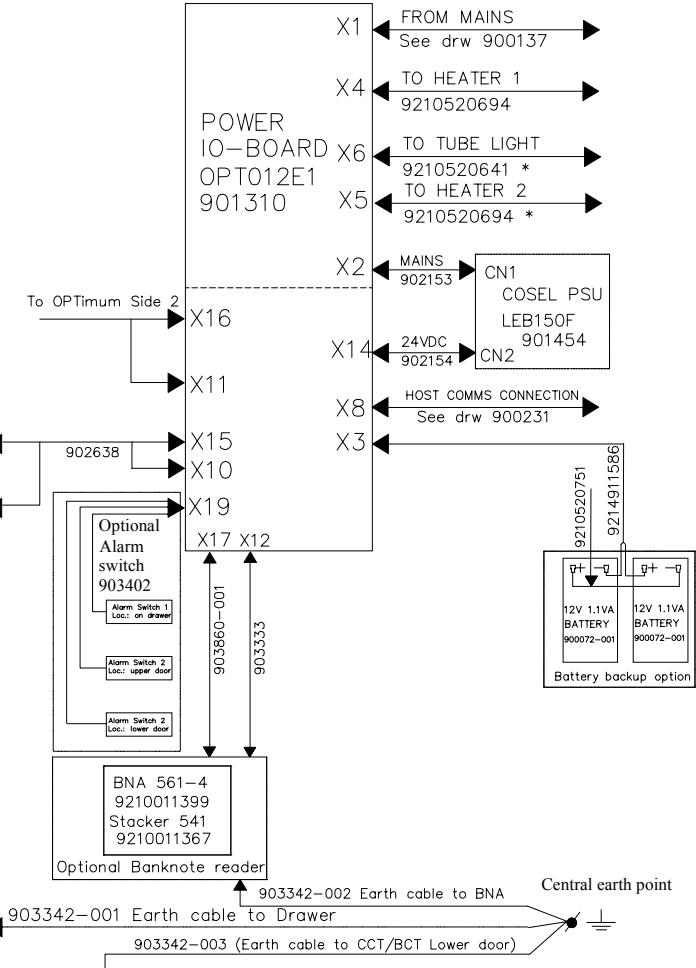
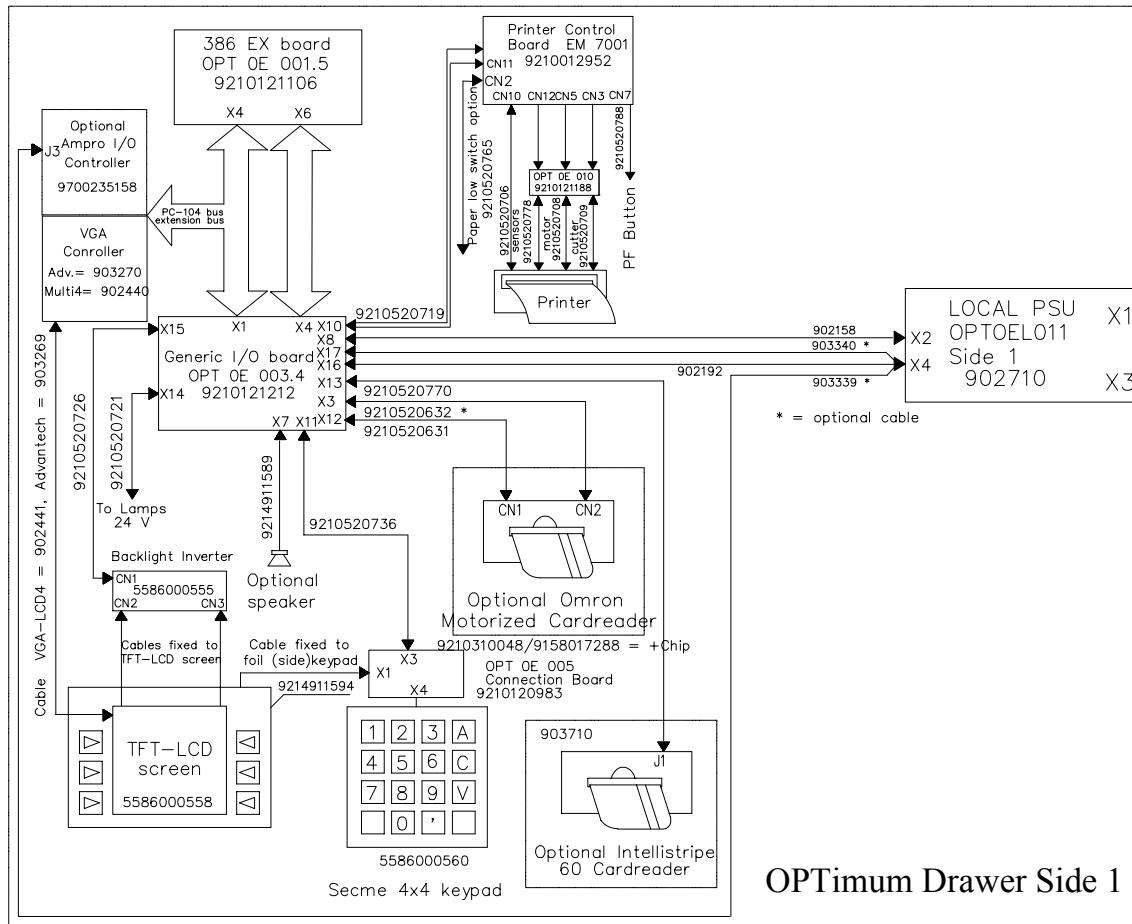
**OPTimum Island Terminal Dimensions**



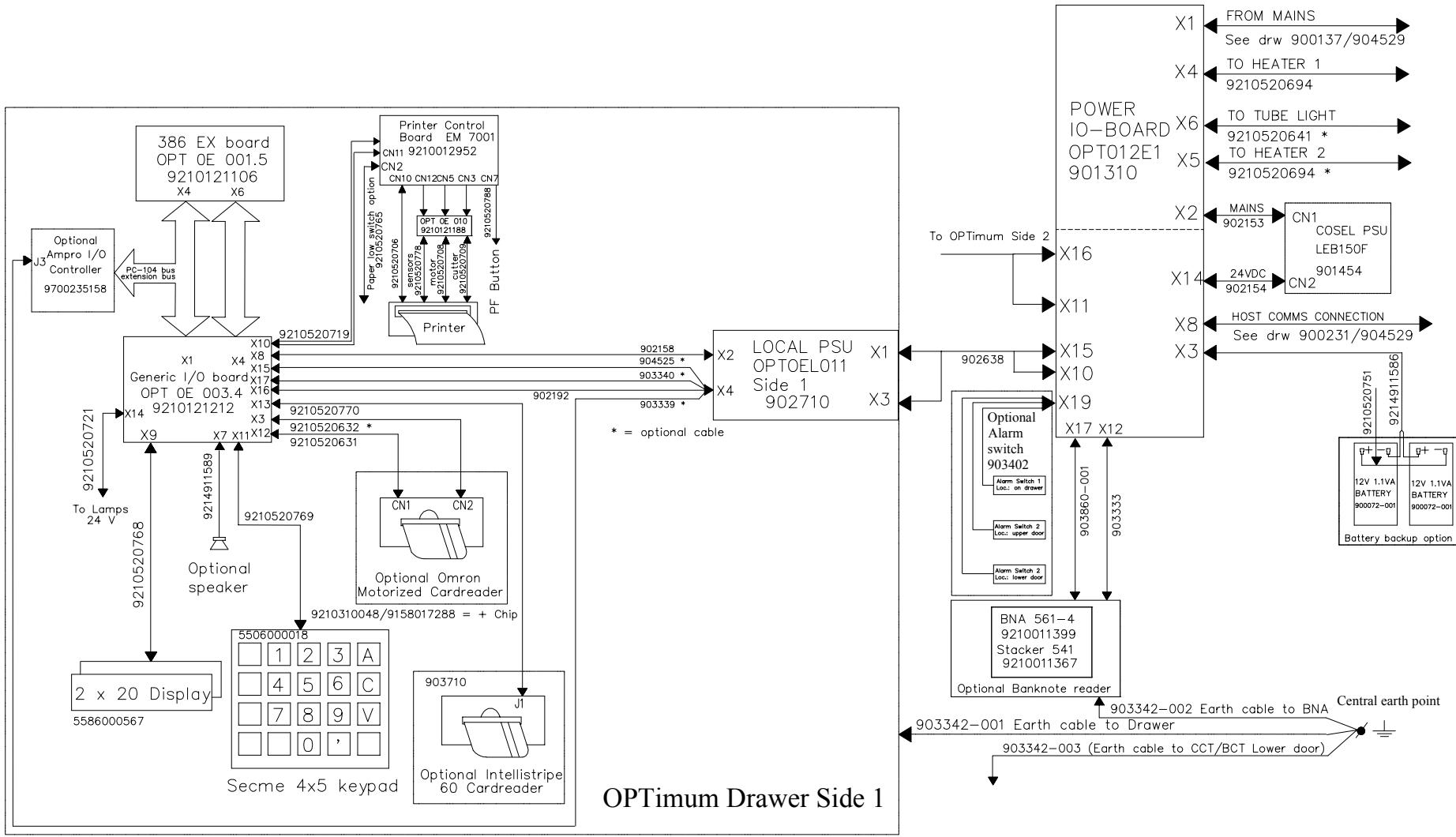
**OPTimum Retrofit Dimensions**

## 2.5 OPT Wiring Diagrams

### 2.5.1 VGA WIRING OVERVIEW

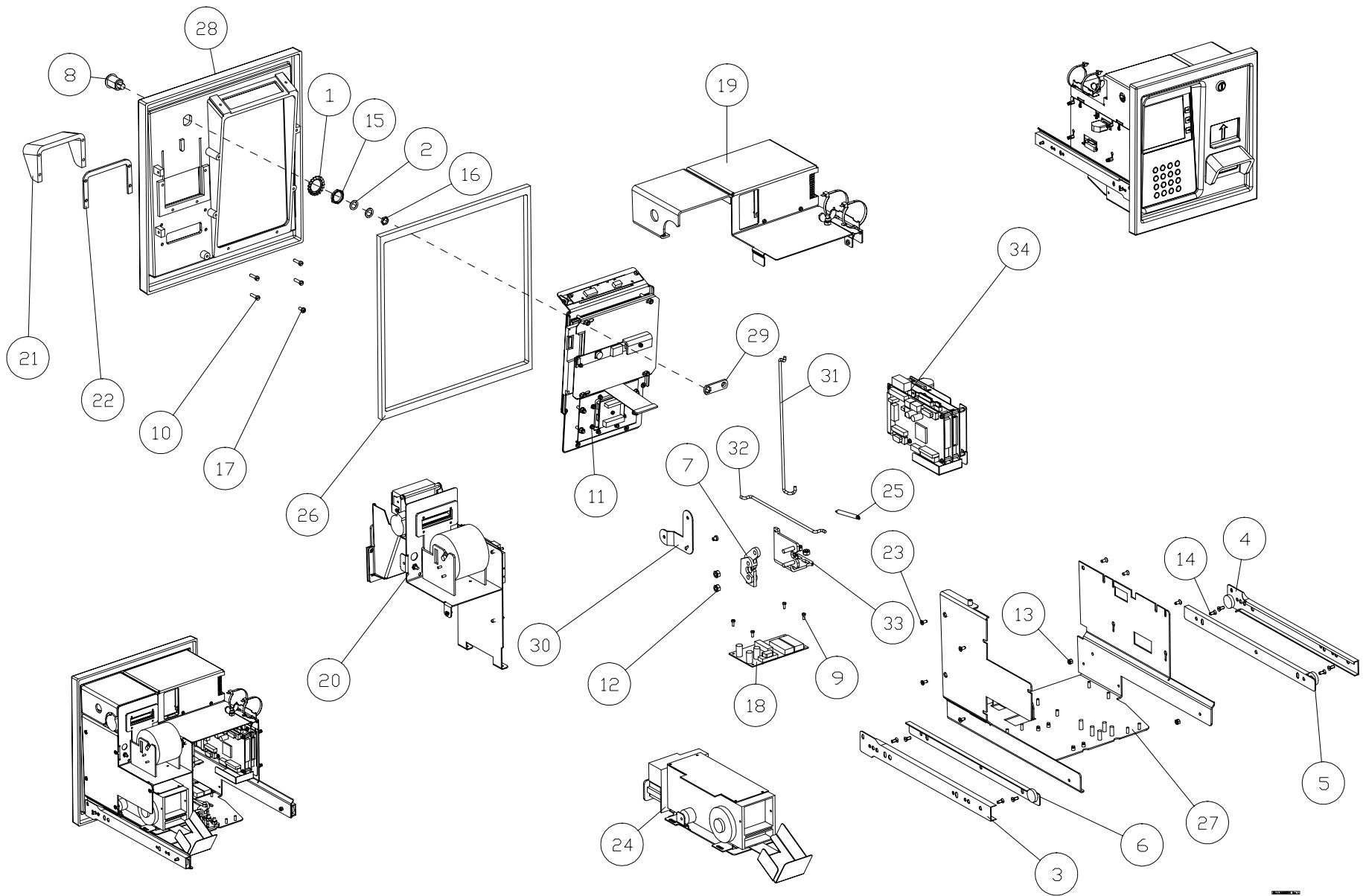


## 2.5.2 LCD WIRING OVERVIEW



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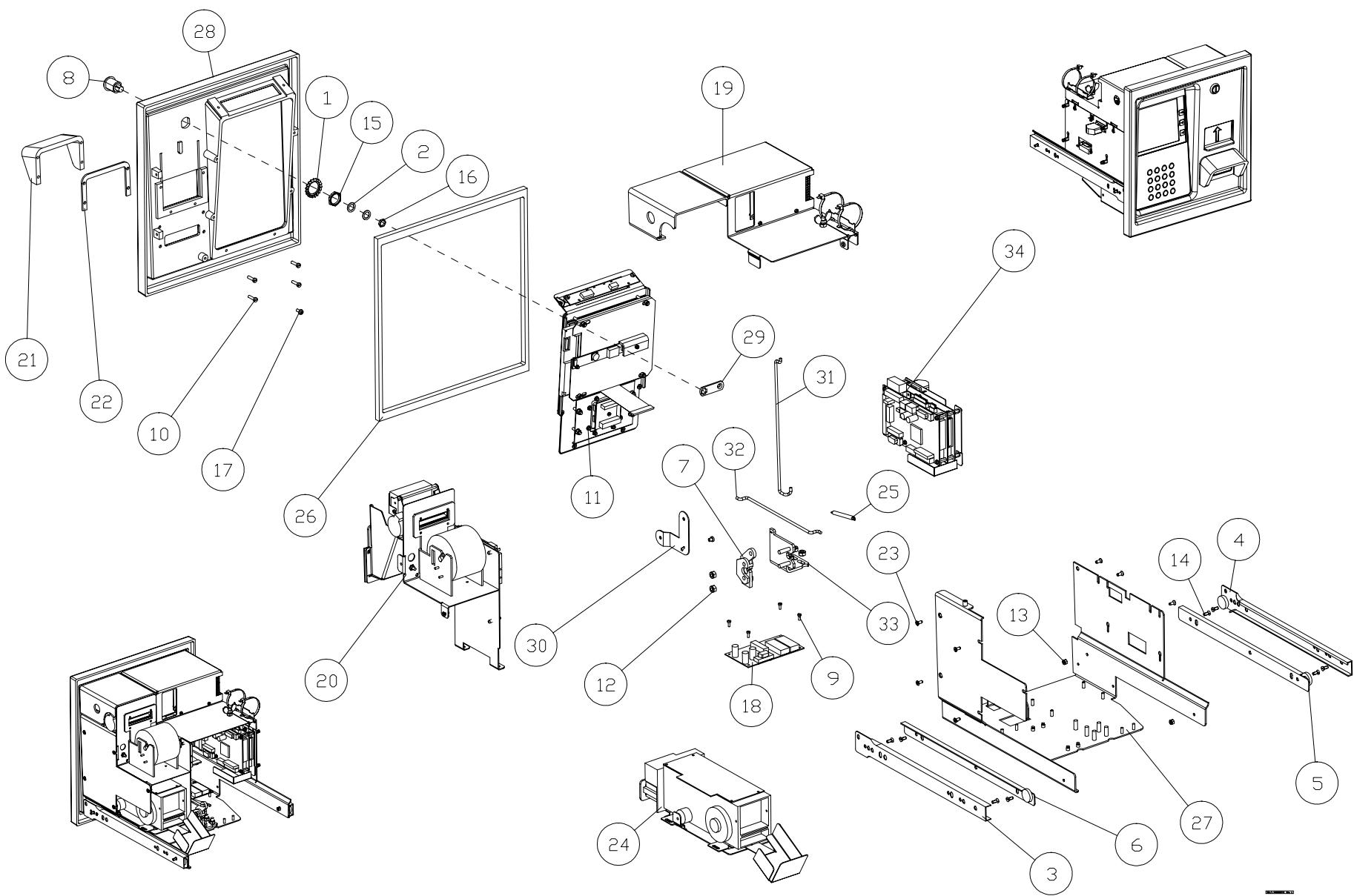


### 3 DIT DRAWER - FRANCE

#### 3.1 VGA-MD Assembly

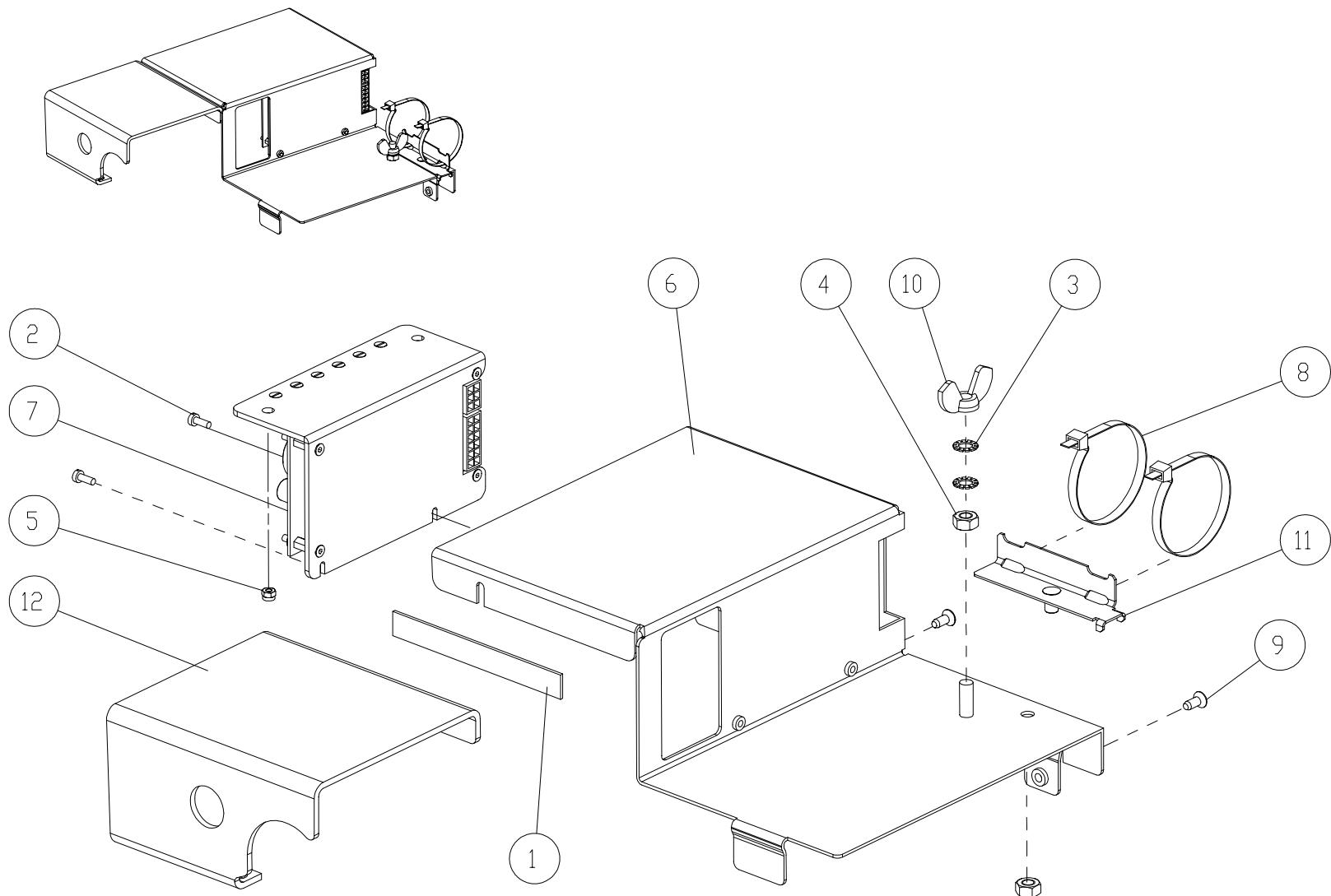
Item No	Description	Désignation Français	Part No	Comments
1	Serrated Lock Washer id21	Veroille Rondelle Elast a dents	5512000068	
2	Adjustment Ring Eurolock	Ajustement Sonne Euro Verouiller	5566000028	
3	Drawer Rail	Tiroir Raille	5566000086A	
4	Drawer Rail	Tiroir Raille	5566000086B	
5	Drawer Rail	Tiroir Raille	5566000086C	
6	Drawer Rail	Tiroir Raille	5566000086D	
7	Dzus Lock	Dzus Verouiller	5566000087	
8	Euro Lock Standard	Euro Verouiller Norme	5566000114	
9	Screw SCH M3x8	Vis CS M3x8	900007-008	
10	Screw SCH M4x16	Vis CS M4x16	900007-014	
11	VGA MD display LCD Display	VGA MD Afficheur LCD Afficheur	- -	Refer to separate VGA Display draw Refer to separate LCD Display draw
12	Nut Hex Prev Torque M6	Ecrou Frein M6	900012-003	
13	Nut Hex Prev Torque M4	Ecrou Frein M4	900012-004	
14	Screw SCS M4x10	Vis FS M4x10	900014-009	
15	Nut Hex 3/4 - 24 UNS	Ecrou Hex 3/4 - 24 UNS	900041-001	
16	Nut Hex M10x1.00 for lock	Ecrou M10x1,00 pour serrures	900043-001	
17	Screw CRRCHTF M4x10	Autotara Cyl Bomb Emp Cru M4x10	900078-004	
18	Sound Board	Carte Synthese Vocale	902489	Option
19	Raincover Assy MD	Couvrir de Pluie asm	902631	Refer to separate Raincover drawing
20	DIT Printer Assy	DIT Imprimeur asm	903246	Refer to separate Printer drawing
21	OPT Cardreader Raincover	OPT carder lecteur couverture de pluie	903352	
22	OPT Cardreader Cover Seal	OPT Joint Carder Lecteur Couvr	903353	
23	Screw CRCTH M4x10	Vis atfrfe M4x10	904062-001	
24	Omron Chip Cardreader	Omron Chip Carder Lecteur	-	Refer to separate Card Reader draw

(Cont.)



### 3.1 VGA-MD Assembly (Cont.)

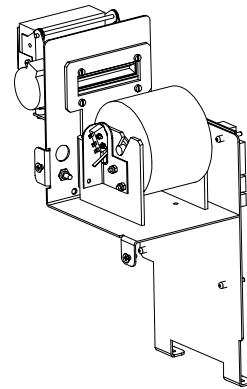
Item No	Description	Désignation Français	Part No	Comments
25	Dzus Lock Spring MD	Dzus Verouiller Ressort MD	9220110902	
26	Drawer Fascia Seal MD	Tiroir Fascia Joint MD	9220131613	
27	Support Bkt Front MD	Soutenir Encadrer Devant	9400021380	
28	Cast Fascia MD Cast Fascia man-hor	Mouler Fascia MD Mouler Fascia man-hor	9400021525 903013	Motorised Card Reader Manual & Non Card Reader
29	Lock CAM MD	Verouiller Came MD	9400021671	
30	Lock Swivel MD	Verouillir Tourillon MD	9400021673	
31	Vertical Lock Rod MD	Vertical Verouiller Baguette	9400021675	
32	Horizontal Lock Rod MD	Horizontal Verouiller Baguette	9400021676	
33	Lock Bkt MD	Verouiller Encadrer MD	9400021677	
34	Optimum Assy PBS - Generic - VGA Video Controller PC104 PCM3521 VGA Controller LCD-4 PC/104 386 System board 2MB 34 P Board to Board Conn I/O Board Optimum Assy PBS/Gen/Ser	Optimum asm PBS - Generic - VGA Contrôleur Vidéo PCM3521 Contrôleur VGA LCD-4 PC/104 386 System board 2MB 34 P Board to Board Conn PCB/OPT003/IO/GEN IO BRD Optimum asm PBS/Gen/Ser	9701170754 903270 902440 9210121106 9700161059 901742 9210520787	VGA display only VGA display only VGA display only LCD Display only



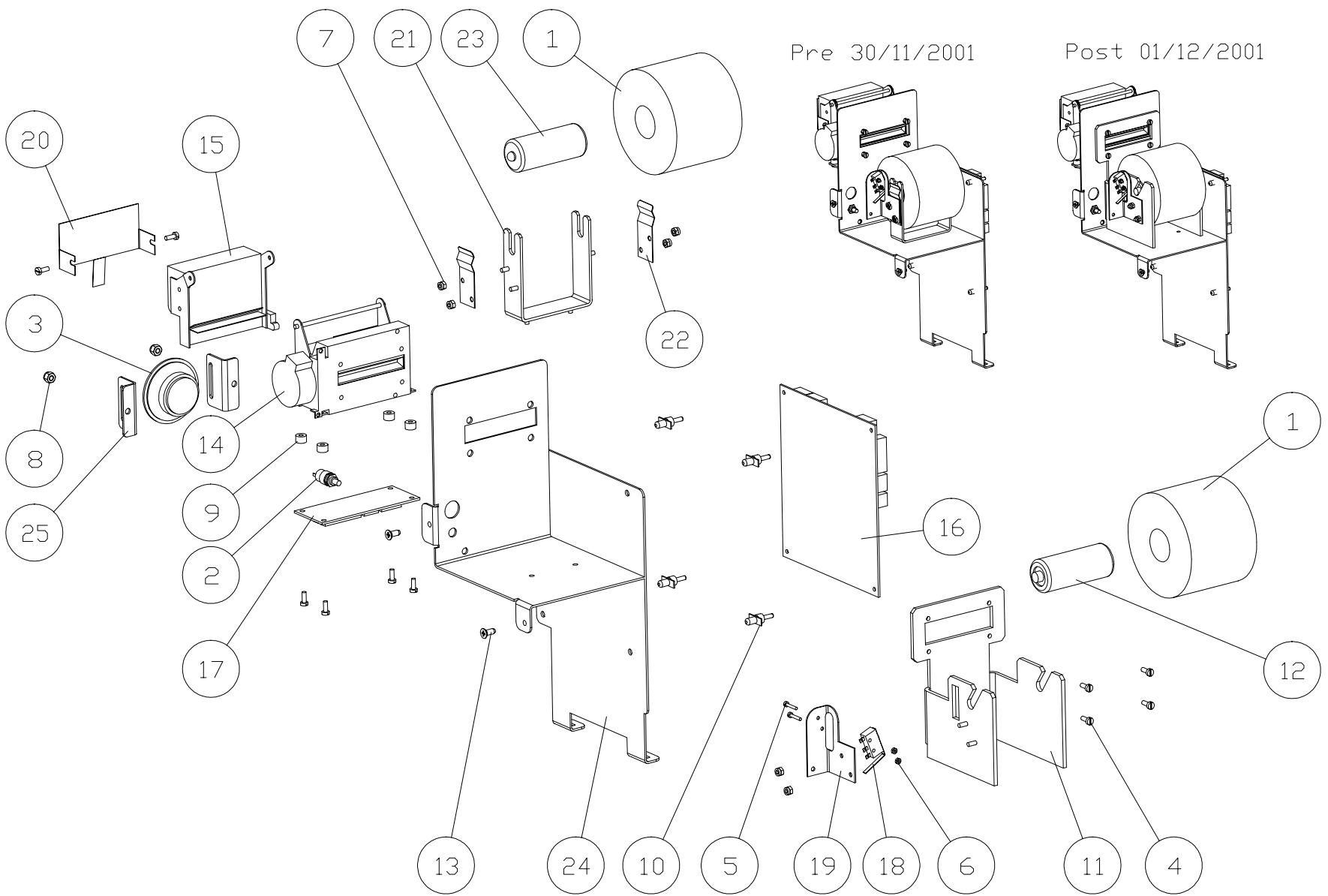
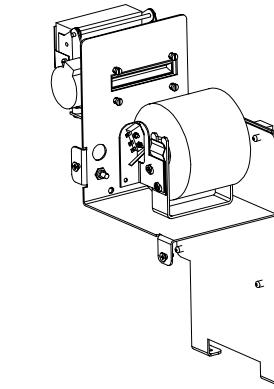
### 3.2 Raincover Assembly

Item No	Description	Désignation Français	Part No	Comments
1	Magnetic Strip	Magnétique Devetir	5566000113	
2	Screw SCH M3x8	Vis CS M3x8	900007-008	
3	Washer Serr Lock Ext M6	Rondelle a dents DEC M6	900009-004	
4	Nut Hex M6	Ecrou H M6	900011-001	
5	Nut Hex Prev Torque M3	Ecrou Frein M3	900012-001	
6	Raincover display LPSU	Pleuvoir l'elalage couverture LPSU	902630	
7	Local PSU assy	Local PSU asm	902710	
8	Tyrap 196x4.8	Serre-câble 196x4.8	903469-001	
9	Screw CRCTH M4x10	Vis atfrfe M4x10	904062-001	
10	Wing Nut M6	Ecrous Oreilles M6	904078-001	
11	Cable fixing assy	Cable encadrer asm	904663	
12	Raincover Printer MD	Pleuvoir imprimeur Couverture MD	9400024365	

Post 01/12/2001

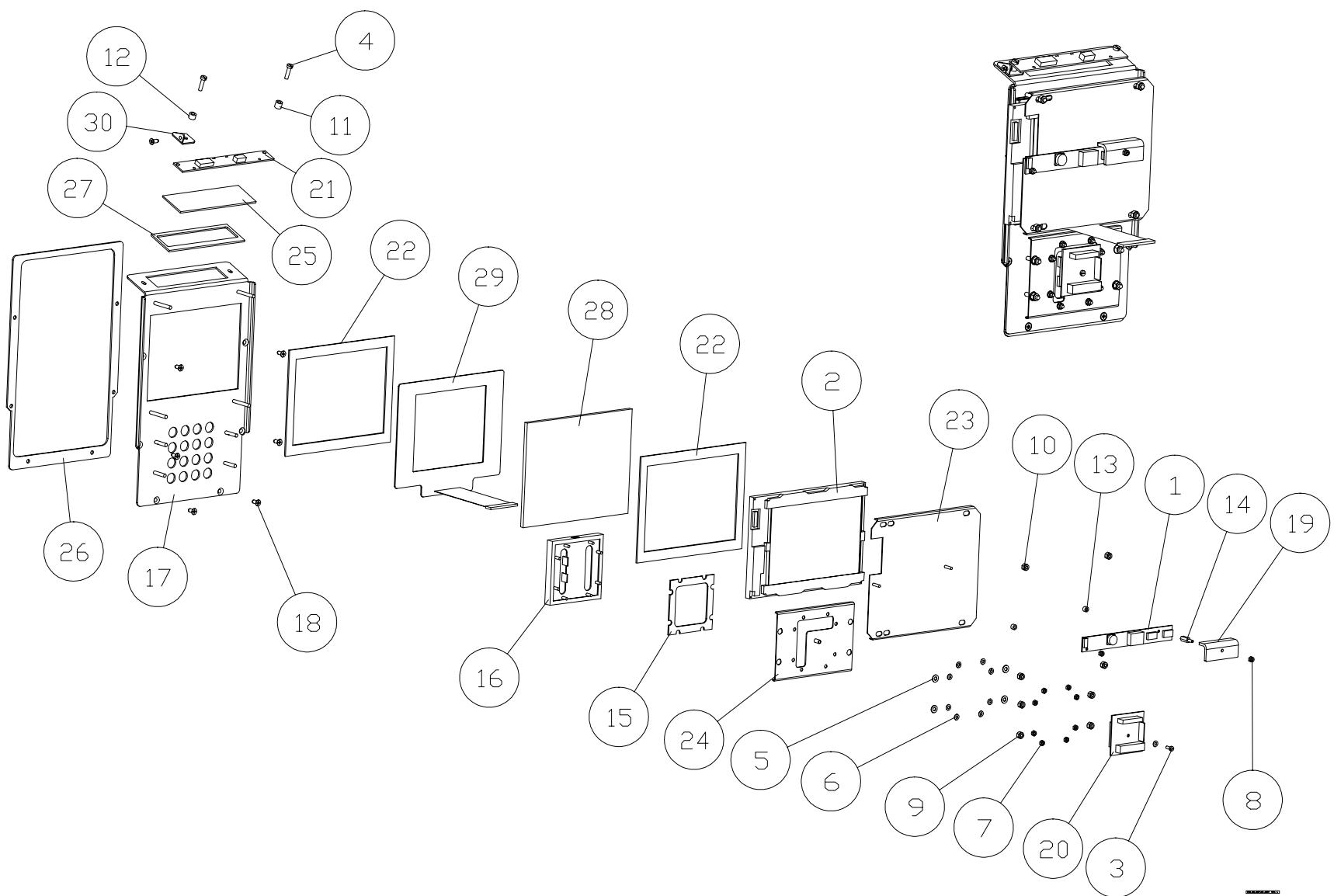


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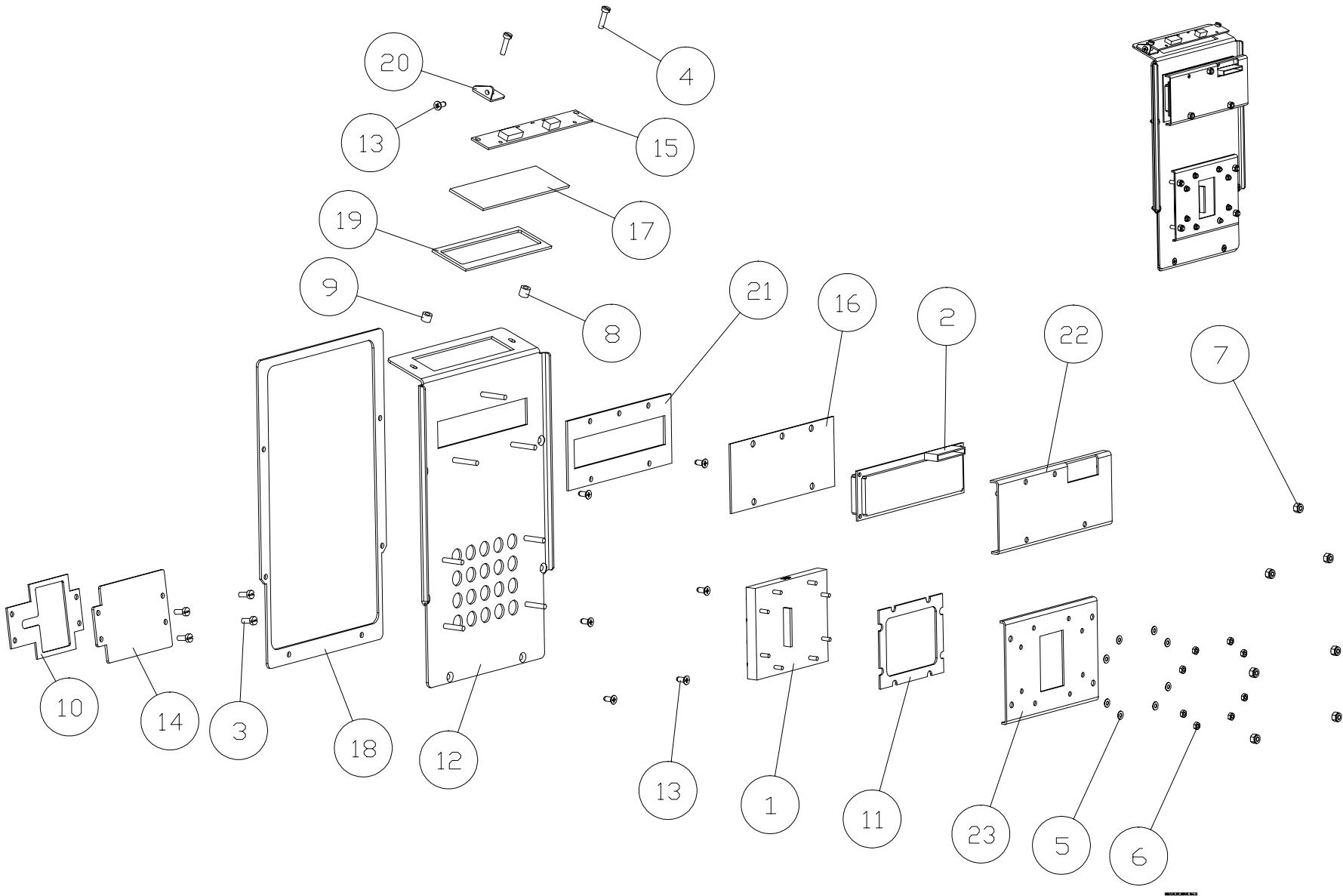
### 3.3 DIT Printer Assembly

Item No	Description	Désignation Français	Part No	Comments
1	Paper Roll	Tapisser Rouleau	5566000084	
2	Paper Advance Switch Push Button black	Paper advance changer Le bouton de pression noir	5586000546 901934-001	Eexn rated - sparkproof
3	50mm Speaker	50mm Haut Parleur	5586000562	
4	Screw SCH M3x8	Vis CS Mx8	900007-008	
5	Screw SCH M2x12	Vis CS M2x12	900007-011	Paper low option only
6	Nut Hex M2	Ecrou H M2	900011-009	Paper low option only
7	Nut Hex Prev Torque M3	Ecrou Frein M3	900012-001	
8	Nut Hex Prev Torque M4	Ecrou Frein M4	900012-004	
9	Spacer 3.2x8x5	Entretoise 3,2x8x5	900024-011	
10	Locking Circuitboard Support 5mm	Tabl circ verrouill support 5mm	900456-002	
11	OPT Paper Bracket	OPT Lapisser Encadrer	903146	
12	OPT Paper Roller	OPT Lapisser Laminoir	903147	
13	Screw CRCTH M4x10	Vis atfrfe M4x10	904062-001	
14	Print Head Citizen LT-280 Assy Printer Head Citizen LT280	Print Head Citizen LT-280 Assy Printer Head Citizen LT280	9210012950 9210013335	Not shown
15	Print Cutter Citizen AC-5F Assy Printer Cutter AC5	Print Cutter Citizen AC-5F Assy Printer Cutter AC5	9210012951 9210013337	Not shown
16	EM7000 Printer PCB	EM7000 Imprimeur PCB	9210012952	
17	Printer Connection Board Extension set cabling printer head/cutter	Raccordement Imprimeur Monte Extension set cabling printer head/cutter	9210121188 9220142297	Not shown
18	Assy Paper Low Detection Switch	Assy Paper Low Detection Switch	9210520765	Paper low option only
19	Bracket Paper Low DIT	Bracket Paper Low DIT	9220131542	Paper low option only
20	Paper Guide Slimline	Tapisser Guide Slimline	9400017050	
21	Paper Holder Bracket	Paper Holder Bracket	9400017191	
22	Spring Clip	Spring Clip	9400017192	
23	Paper Shaft	Paper Shaft	9400017876	
24	Printer Plate MD	Imprimeur Plaquer MD	9400021381	
25	Optimum Speaker bracket	Optimum Haut Parleur Encadrer	9400026294	



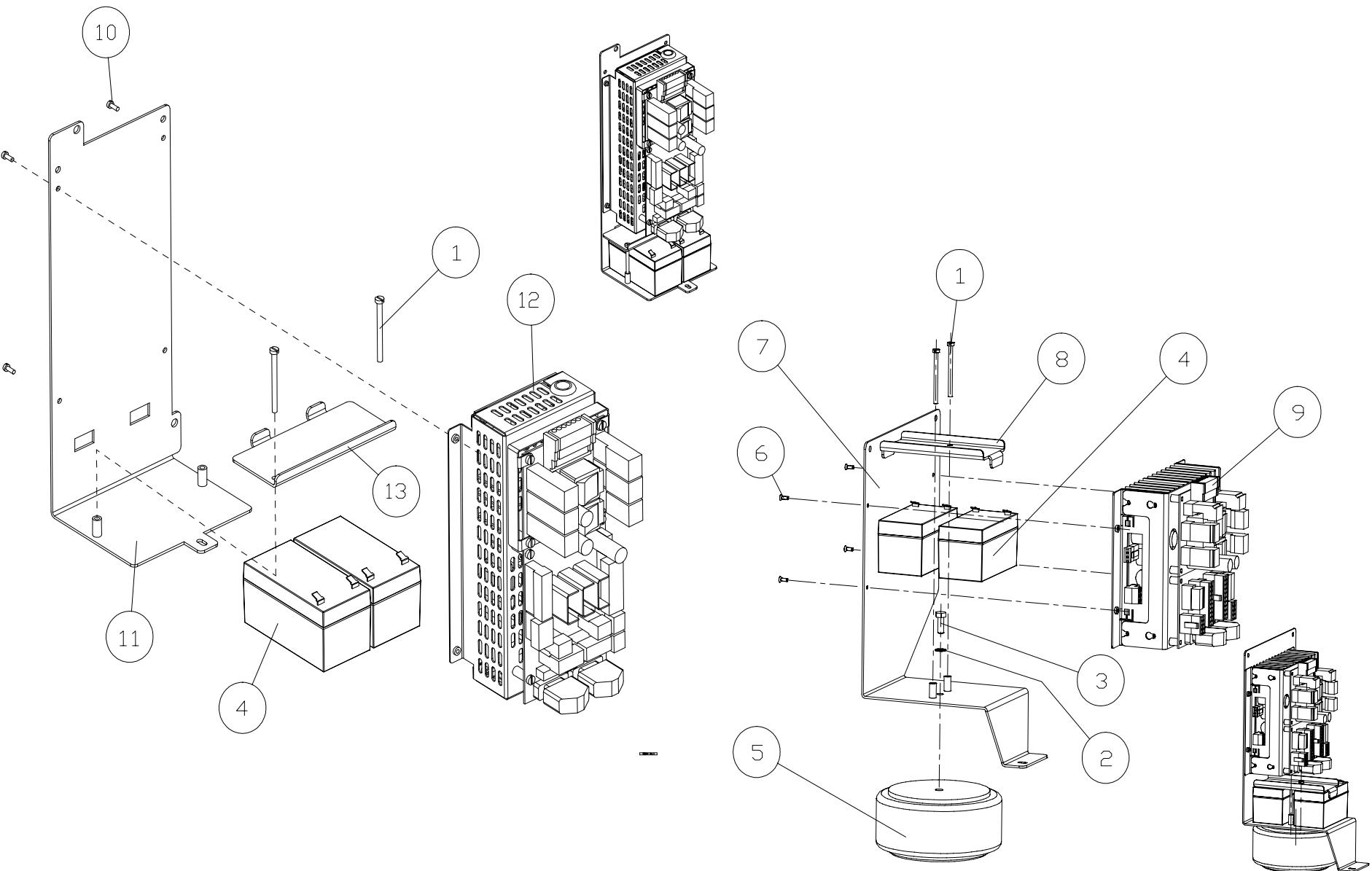
### 3.4 VGA Display

Item No	Description	Désignation Français	Part No	Comments
1	VGA Inverter TDK CXA 0214	VGA Inverter TDK CXA 0214	5586000555	
2	Sharp VGA Screen	Sharp VGA Depister	5586000558	
3	Screw SCH M3x8	M3 x 8 vis t.cylindr. fendue	900007-008	
4	Screw SCH M4x16	Vis CS/CLS M4x16	900007-014	
5	Washer PI M4	Rondelle Plate M4	900008-004	
6	Washer PI M3	Rondelle Plate M3	900008-010	
7	Nut Hex M3	Ecrou H M3	900011-008	
8	Nut Hex Prev Torque M3	Ecrou Autobloquant M3	900012-001	
9	Nut Hex Prev Torque M4	Ecrou Autobloquant M4	900012-004	
10	Nut Hex Prev Torque M4	Ecrou Autobloquant M4	900012-009	
11	Spacer 4.2x8.0x7.5	Entretoise Cyl 4.2x8.0x7.5	900024-002	
12	Spacer 4.2x8.0x6.0	Entretoise Cyl 4.2x8.0x6.0	900024-007	
13	Spacer 3.1x6x4	Entretoise Cyl 3.1x6x4	900024-009	
14	Spacer Thr Hex MF M3x12x8x8	Entretoise Hex MF M3x12x8x8	900711-003	
15	OPT 4x4 pinpad distance plate	OPT 4x4 clavier distancer plaq	902724	
16	OPT 4x4 pinpad	OPT 4x4 clavier	903085	
17	OPT 4x4 keyboard bkt	OPT 4x4 clavier encadrer	903091	
18	Screw Cr Rec Csk Thrdform m4x1	Vis Auto Tara Fraisee Fendue m	904062-001	
19	VGA inverter cover	VGA inverter couvrir	904286	
20	4x4 Pinpad PCB	4x4 Clavier PCB	9210120983	
21	LED PCB Assy	LED PCB Assy	9210121098	
22	VGA Gasket	VGA Joint	9400017049	
23	Sharp VGA Bkt	Sharp VGA Encadrer	9400018202	
24	DAC Keyboard Bkt	DAC Clavier Encadrer	9400019135	
25	Lighting Window MD	Allumant Fenetre MD	9400021413	
26	KBD Plate Gasket MD	Clavier Plaquer Joint MD	9400021686	
27	Lighting Window Gasket MD	Allumant Fenetre Joint MD	9400021687	
28	VGA Glass MD	VGA Fenetre MD	9400023255	
29	VGA Tactile KBD MD	VGA Tactile Clavier MD	9400023256	
30	Raincover Bracket MD	Couvrir de Pluie Encadrer MD	9400024366	



### 3.5 LCD 2x20 Display

Item No	Description	Désignation Français	Part No	Comments
1	5x4 Numeric Keyboard	5x4 Clavier	5506000018	
2	LCD 2x20 Display MDL(S)-20268	LCD 2x20 Exposer MDL(S)-20268	5586000567	
3	Screw SCH M4x10	M4 x 10 VIS CS / CLS	900007-001	
4	Screw SCH M4x16	Vis CS/CLS M4x16	900007-014	
5	Washer PI M3	Rondelle Plate M3	900008-010	
6	Nut Hex M3	Ecrou H M3	900011-008	
7	Nut Hex Prev Torque M4	Ecrou Autobloquant M4	900012-004	
8	Spacer 4.2x8.0x7.5	Entretoise Cyl 4.2x8.0x7.5	900024-002	
9	Spacer 4.2x8.0x6.0	Entretoise Cyl 4.2x8.0x6.0	900024-007	
10	Magtek metal bezel seal	Magtek biseau métal cachette	903014	
11	OPT 4x5 Pinpad distance plate	OPT 4x5 Clavier distancer plaq	903076	
12	OPT 4x5 keyboard bkt	OPT 4x5 clavier encadrer	903092	
13	Screw Cr Rec Csk Thrdform M4x10	Vis Auto Tara Fraisee Fendue M4x10	904062-001	
14	Cr Cover Plate BCT Fr	CR Couvrir Plaquer BCT Fr	904503	
15	LED PCB Assy	LED PCB Assy	9210121098	
16	Glassplate Display UK	Fenetre Verre UK	9220118575	
17	Lighting Window MD	Allumant Fenetre MD	9400021413	
18	KBD Plate Gasket	Clavier Plaque Joint MD	9400021686	
19	Lighting Window Gasket MD	Allumant Fenetre Joint MD	9400021687	
20	Raincover Bracket MD	Couvrir de Pluie Encadrer MD	9400024366	
21	2x16 LCD Gasket	Joint 2x16 LCD	9400024518	
22	Display Bracket 2x20 LCD	Exposer Encadrer 2x20 LCD	9400026141	
23	5x4 Pinpad Bracket	5x4 Clavier Encadrer	9400026222	

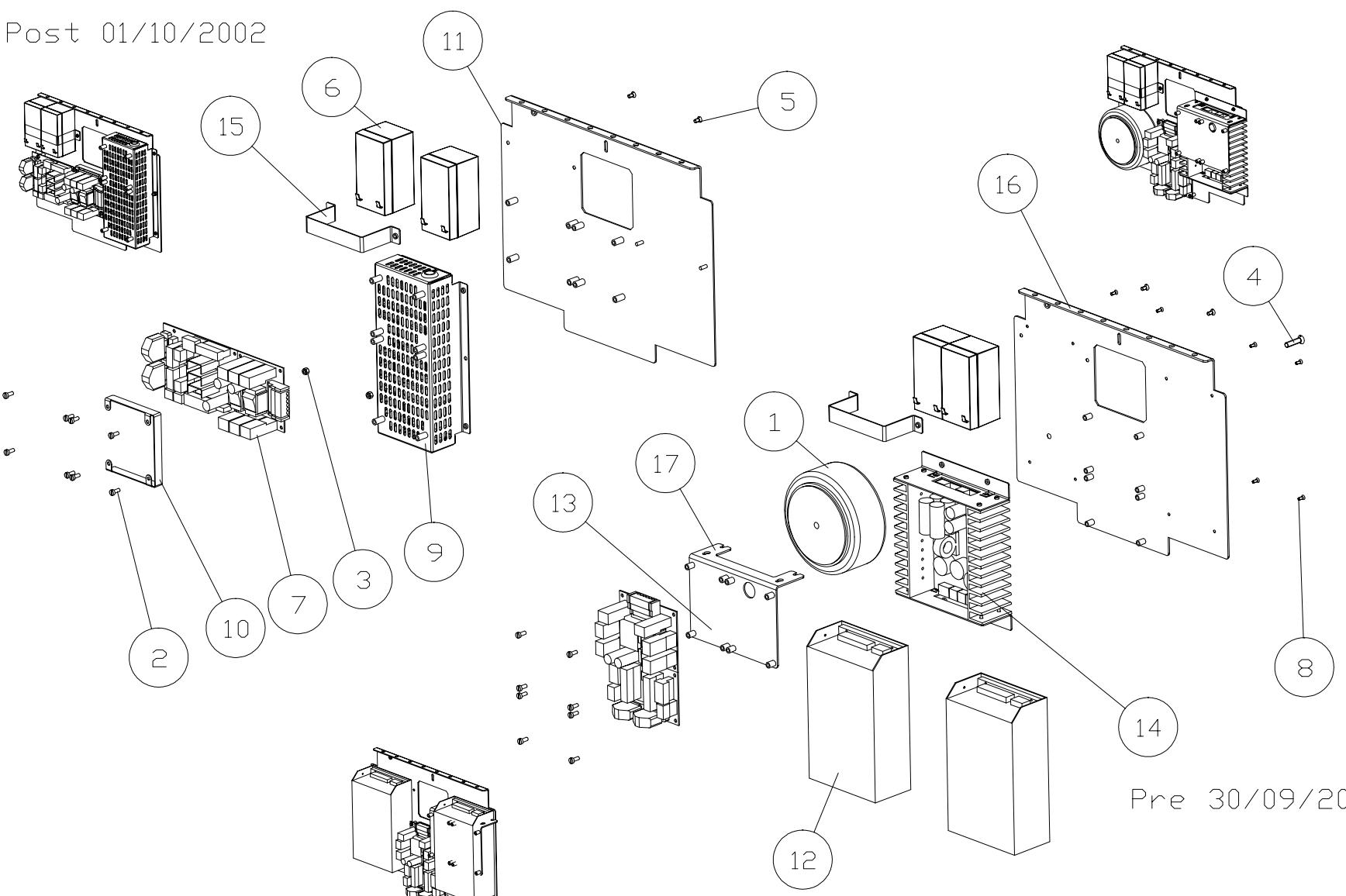


### 3.6 Power Supply Units (PSU)

#### 3.6.1 PSU FOR INTEGRATED DRAWERS - QUANTUM & QUANTUM T RANGE OF DISPENSERS

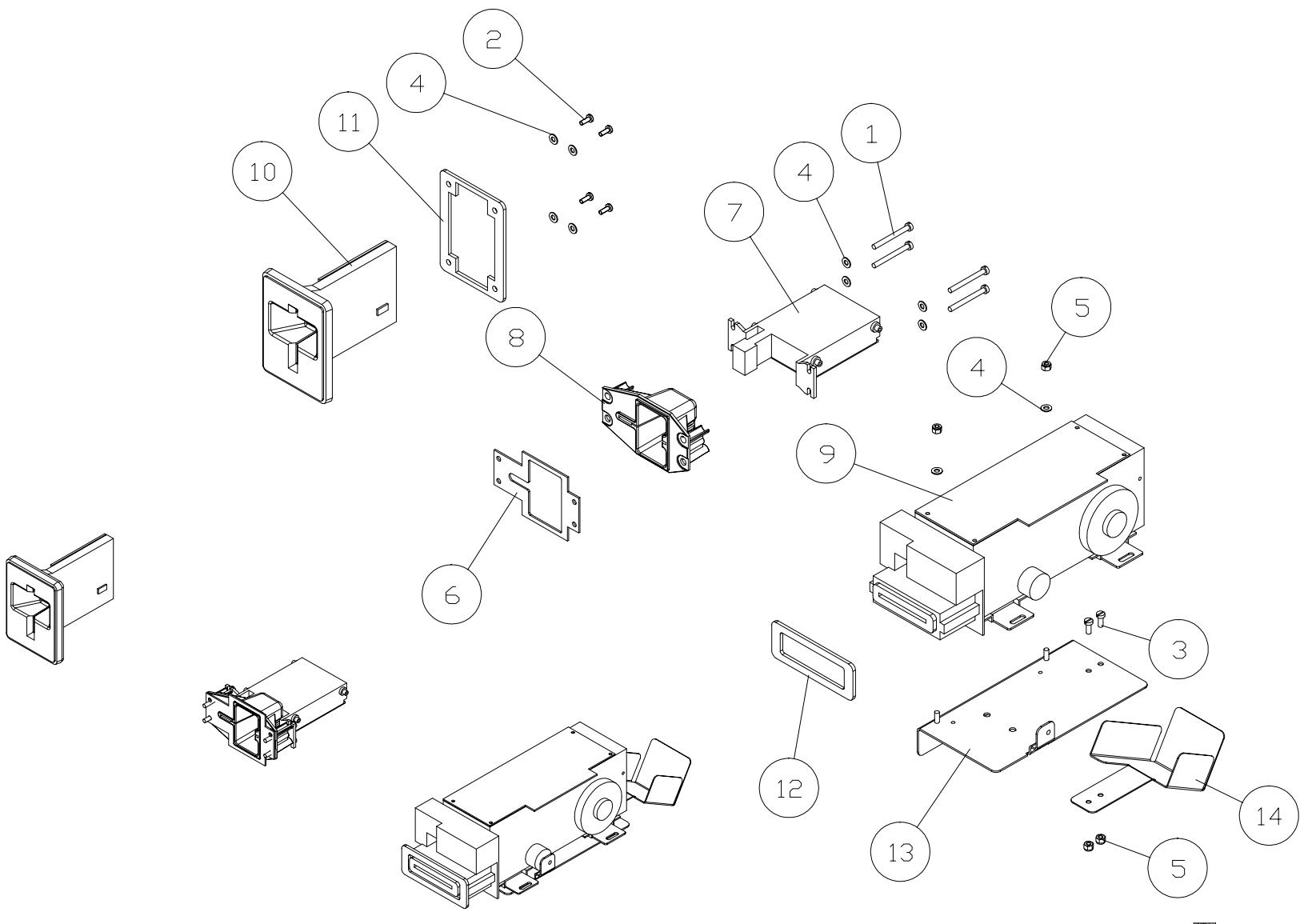
Item No	Description	Désignation Français	Part No	Comments
1	Screw SCH M4x50	Vis CS M4x50	900007-007	
2	Washer Serr Lock Ext M6	Rondelle a Dents DEC M6	900009-004	
3	Screw HH M6x16	Vis H M6x16	900015-002	
4	Battery 12V 1.2 Ah (box type)	Batterie 12V 1.2 Ah	900072	
5	Toroidal Power Trafo 330 VA Toroidal Power Trafo 160 VA	Toroidal Power Trafo 330 VA Alim. Toroidale Trafo 160 VA	900073 901881	Double-sided Single-sided
6	Screw CRC M3x8	Vis FLZ M3x8	901323-001	
7	DIT power supply unit bracket	DIT assisté approvisionner encader	901877	
8	DIT power supply unit Battery Bracket	DIT assisté appr encader batterie	901878	
9	OPTIMUM PSU Assembly	Assemblée OPTIMUM PSU	9400025832	
10	Screw SCH M3x8	Vis CS M3x8	900007-008	
11	DIT PSU bracket	DIT PSU encadrer	902076	
12	OPT PSU assembly	OPT PSU assemblée	902077	
13	DIT PSU battery bracket	DIT PSU batterie encadrer	902079	

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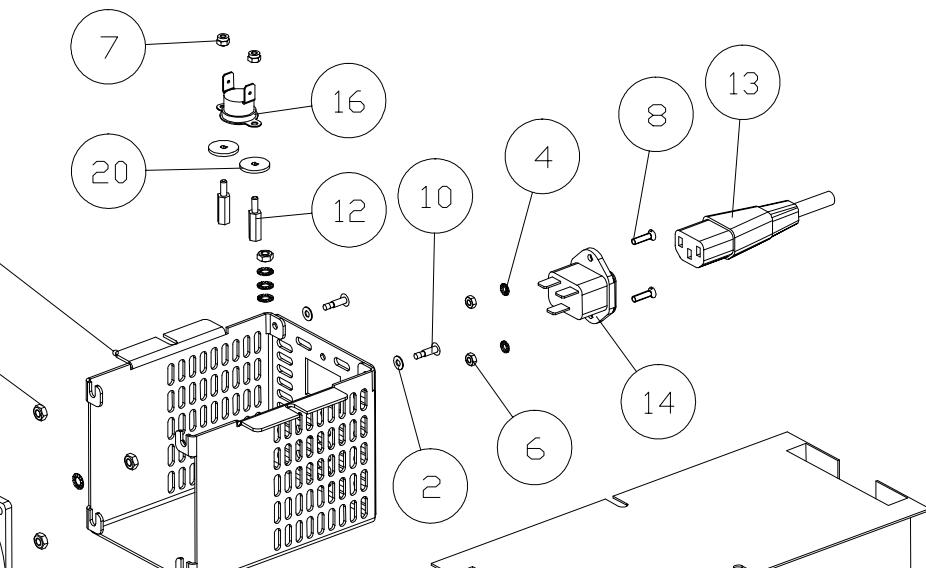
## 3.6.2 PSU FOR DIT-C UNITS

Item No	Description	Désignation Français	Part No	Comments
1	Toroidal Power Trafo 330VA	Toroidal Power Trafo 330VA	5586000554	386 PSU
2	Screw SCH M4x10	M4 x 10 VIS CS / CLS	900007-001	
3	Nut Hex Prev Torque M4	Ecrou Autobloquant M4	900012-004	
4	Screw SCS M6x25	Vis FS M6x25	900014-002	
5	Screw Slotted Countersunk Head	Vis à Tête Fraisee Fendue	900014-006	
6	Battery 12V 1.2Ah	Batterie 12V 1,2 Ah	900072-001	Option
7	PCB/OPT012/PIB/PWR INT BRD	PCB/OPT012/PIB/CARTE ALIM/COMM	901310	
8	Screw CRC M3 x 8	Vis FLZ M3 x 8	901323-001	
9	OPT PSU Assembly	OPT PSU Assemblée	902077	
10	DIT PSU PCB Guard	DIT PSU PCB Protecteur	902601	
11	PSU plate DIT-C	PSU Plaque DIT-C	902611	
12	PSU NFS110-7602PK	PSU NFS110-7602PK	9210012740	NFS 110 option
13	OPTimum Power + I/O Dist Board	OPTimum Power + I/O Dist Board	9220141859	
14	386 PSU Assembly	386 PSU asm	9220141864	386 PSU
15	Short Battery Bkt MD	Petit Batterie Encadrer MD	9400021924	Option
16	DIT-C Electric Plate	DIT-C Electrique Plaque	94000231058	
17	H' V-Board - 2 Bracket	H' V-Board - 2 Bracket	9400025831	386 PSU



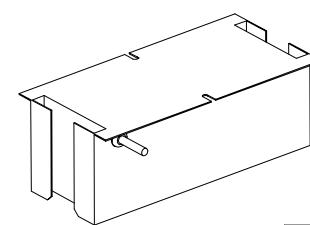
### 3.7 Card Readers

Item No	Description	Désignation Français	Part No	Comments
1	Slotted Cheese Head Screw M4x40	Vis à tête cylindrique fendue	5511000185	
2	Screw Cil Kop 32UNC 3-8in	Vis Cil Kop UNC 3-8in	5516000117	
3	Screw SCH M4x10	M4 x 10 VIS CS / CLS	900007-001	Motorised Card Reader only
4	Washer PI M4	Rondelle pl M4	900008-001	
5	Nut hex prev torque M4	Ecrou Frein M4	900012-009	Motorised Card Reader only
6	DDM Metal Bezel Seal	Magtek Biseau Metal Cachette	903014	
7	DDM IS60 CR (no bezel)	Magtek IS60 CL (non biseau)	903170	
8	DDM Metal Bezel	Magtek IS60 Biseau Metal	903171	
9	Omron Chip Card Reader Omron Reader for magstripe	Omron Chip Card Lecteur Omron Reader for magstripe	9158017288 9210310048	Motorised Card Reader only Motorised Card Reader only
10	MT-215 Magtek Card Reader	MT-215 Magtek Card Reader	9210310049_CR	
11	Sealing Dip Reader Sealing Magtek Card Reader	Joint DIT Lecteur Sealing Magtek Card Reader	9220115755 9400026221	
12	Sealing Omron Card Reader	Joint Omron Carte Lecteur	9220116114	Motorised Card Reader only
13	Card Reader Bracket MD	Carder Lecteur Encadrer MD	9400021382	Motorised Card Reader only
14	Card Catcher MIL-DIT	Carder Detenteur MIL-DIT	9400021415	Motorised Card Reader only



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### 3.8 Heater Assembly

Item No	Description	Désignation Français	Part No	Comments
1	Screw SCH M3x8	M3 x 8 vis t.cylindr. fendue	900007-008	
2	Washer PI M3	Rondelle Plate M3	900008-010	
3	Washer Serr Lock Ext M4	Rondelle _à_ éventail M4 x 8	900009-001	
4	Washer serr lock ext M3	Rondelle éventail M3	900009-006	
5	Nut hex M4	Ecrou Hexagonaux M4	900011-005	
6	Nut hex M3	Ecrou Hexagonaux M3	900011-008	
7	Nut Hex Prev Torque M3	Ecrou Autobloquant M3	900012-001	
8	Screw SCS M3x12	Vis FS M3x12	900014-001	
9	Screw SCS M4x70	Vis FS M4x70	900014-010	
10	Rivet Blind Domed Gas 3,2x8,0	Rivet aveugle	900025-001	
11	DIT Heater	DIT Chauffage	900540	
12	Spacer Thr Hex MF M3x15x8x8	Entretoise Hex MF M3x15x8x8	900711-004	
13	Cable power cord 2 mtr	Câble cordon de alimentation	900860-001	
14	IEC Mains chassis plug	IEC 230V Connecteur	901935-001	
15	OPT Heater Bracket	OPT Chauffage Encadrer	903591	
16	Thermal Switch NC 30/20°C	Interrupteur therm. NR 30/20°C	903949-001	
17	Heating element 300 Watt	Element de chauffage 300 W	903950	
18	Fan Axial AC 80x80x25mm	Ventilateur axial AC 80x80x25	903951	
19	Finger guard for 80mm fan	Garde digitale pour 80mm vent	903953	
20	Nylon washer 3.2 x 15 x 1.5	Rondelle nylon 3.2 x 15 x 1.5	904057-001	
21	Thermal resistive ring 4.3x8x1	Thermalique rondelle 4.3x8x1	904325	
22	Ceramic washer 4 x 9.5 x 3	Céramique rondelle 4 x 9.5 x 3	904326	

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Issue A

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